PAVLOVSKAYA, T. E., and PASSYNSKIY, A. G.

"Amino Acids Formation when Exposing Formaldehyde and Ammoniumsalts Solutions to Ultraviolet Irradiation."

Pavlovskaya, Tatanya, Inst. of Biochem, A. N. Bakh, Moscow

peper presented at the 4th Intl. Congress of Biochemistry, Vienna, 1-6 Sep 58.

PAVLOVSKAYA, T Ye

23

PHASE I BOOK EXPLOITATION SOV/5628

Akademiya nauk SSSR. Institut biologicheskoy fiziki

Rol' perekisey i kisloroda v nachal'nykh stadiyakh radiobiologicheskogo effekta (Role of Peroxides and Oxygen During Primary Stages of Radiobiological Effects) Moscow, 1960. 157 p. 4,500 copies printed.

Responsible Ed.: A. M. Kuzin, Professor; Ed. of Publishing House: K. S. Trincher; Tech. Ed.: P. S. Kashina.

PURPOSE : This collection of articles is intended for scientists in radiobiology and biophysics.

COVERAGE: Reports in the collection deal with the role of peroxides and oxygen in the primary stages of a radiobiological effect. They were presented and discussed at a symposium held December 25-30, 1958, organized by the Institut biofiziki AN SSSR, (Institute of Biophysics, AS USSR). Twenty-eight Moscow scientists, radiobiologists, radiochemists, physicists, and

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Role of Peroxides and Oxygen (Cont.) SOV/5628

physical chemists took an active part in the symposium. Between the time of its conclusion and the publication of the present book some of the materials were expanded. In addition to the authors the following scientists participated in the discussion: L. A. Tummerman, V. S. Tongur, G. M. Frank, Yu. A. Kriger, E. Ya. Grayevskiy, N. N. Demin, B. N. Tarusov, and I. V. Vereshchenskiy. References follow individual articles.

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10-6-61

PAVLOVSKAYA, T.Ye.; PASYNSKIY, A.G.; G[illegible]NIKOVA, A.I.

Production of amino acids by subjection of formaldehyde and ammonium salt solutions to the action of ultraviolet rays in the presence of absorbents. Dokl. AN SSSR 135 no.3:743-746 N '60. (MIRA 13:12)

1. Institut biokhimii im. A.N. Bakha Akademii nauk SSSR. Predstavleno akad. A.I. Oparinym.

(AMINO ACIDS) (ULTRAVIOLET RAYS)

PASYNSKIY, A.G.; PAVLOVSKAYA, T.Ye.

Mechanism of the oxygen effect in radiation oxidation of mercapto croups in cysteine and egg albumin. Dokl. AN SSSR 135 no.4:998-1001 '60. (MIRA 13:11)

1. Institut biokhimii im. A.N.Bakha Akademii nauk SSSR. Predstavleno akademikom A.I.Oparinym.
(Mercapto group) (X rays--Physiological effect)
(Oxygen--Physiological effect)

PAVLOVSKAYA, T. YE., and PASYNSKIY, A. G. (USSR)

"The Mechanism of the Oxygen Effect in the Irradiation of Proteins."

Report presented at the 5th International Biochemistry Congress, Moscow, 10-16 Aug 1961

PAVLOVSKAYA, T.Ye.; PASYNSKIY, A.G.

Mechanism of the oxygen effect in protein irradiation. Biokhimiia 26 no. 1:110-119 Ja-F '61. (MIRA 14:2)

1. Institute of Biochemistry, Academy of Sciences of the U.S.S.R., Moscow.
(PROTEINS) (X RAYS—PHYSIOLOGICAL EFFECT)
(OXYGEN—PHYSIOLOGICAL EFFECT)

PASYNSKIY, A. G. and PAVLOVSKAYA, T. Ye.

"On the Mechanism of of the Effect of Oxygen During Irradiation of Proteins"

paper presented at the Symposium on Biological Effects of Ionizing Radiation at the Molecular Level (IAEA), 2-6 July 1962, Brno, Czech.

PAVLOVSKIYA, T. YE

(c)

The Mechanism of the Oxygen Effect in Proteins

[illegible] and A. G. [illegible]

Oxidation of [illegible] was measured to evaluate the oxygen effect in solutions of proteins after X- or γ-irradiation in air, in vacuo or in N_2. For [illegible] solutions the oxygen effect was explained quantitatively by the indirect effect of the radiations. The value of the oxygen effect varied from a maximum of about 3.1 to complete absence for different combination of substrates concentrations and radiation dose. A similar variation of the oxygen effect is to be expected for different parts of the cell, and for different criteria of damage. The value of the oxygen effect in protein solutions was largely determined by the hydrogen bonds of the SH-groups. *In vacuo* or N_2, the SH-groups of egg albumen were not oxidized even after high doses (2 Mr); when the substance was irradiated in the presence of guanidine *in vacuo* or in air, oxidation of the SH-groups proceeded normally, as it did in solutions of simple thiols. This was evidently the result of the rupture of H-bonds in the protein molecule. When dry preparations of the protein were irradiated, the number of SH-groups oxidized corresponded exactly to the radiation dose, but was almost two orders greater than the number of radicals as measured in the same system by the ESR method.

The irradiated protein absorbs 1-2 O_2 molecules per protein molecule, and the measurements of turbidity show a lower degree of aggregation of the protein irradiated in the presence of O_2. An hypothesis is suggested according to which the oxygen effect is explained by the action of O_2 in the form of either O_2^- or O_3 upon the rupture and rearrangement of several H-bonds in the protein molecules, and upon the conditions of the fracture and rearrangement of intermolecular bridges.

Institute of Biological Chemistry, Academy of Sciences of the USSR, Moscow

report presented at the 2nd Intl. Congress of Radiation Research,
Harrogate/Yorkshire, Gt. Brit. 5-11 Aug 1962

43229

S/844/62/000/000/042/129
D214/D307

AUTHORS: Pasynskiy, A. G. and Pavlovskaya, T. Ye.

TITLE: The mechanism of the oxygen effect in the action of ionizing radiation on albumins

SOURCE: Trudy II Vsesoyuznogo soveshchaniya po radiatsionnoy khimii. Ed. by L. S. Polak. Moscow, Izd-vo AN SSSR, 1962, 252-255

TEXT: The O_2-effect in irradiated cysteine and egg albumin was measured as the ratio of -SH groups oxidized in the presence of O_2 and in vacuum. With a high excess of the substrate, the O_2 effect in cysteine solutions (8×10^{-4} - 2.5×10^{-3} M; dose of x or γ rays: 10^4 - 5×10^5 r) reaches the theoretical maximum of 3, falling to unity as the excess is decreased. The oxidation of -SH in a 2% albumin solution occurs only in the presence of O_2. In vacuum, oxidation was obtained in the presence of 4.9 M guanidine which causes a

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The mechanism of ...

rupture of the H-bond which activates the -SH. The oxidation is intensified on introducing O_2. Exposure of dry albumin to radiation eliminates the indirect action of O_2 (via $H\dot{O}_2$). A dose of 10^6 r does not cause oxidation in vacuum, although a dose of 5×10^6 r leads to a 12% oxidation of the -SH, which rises to 24% in an atmosphere of O_2. The action of radiation on O_2 gives O_2^- which ruptures the H-bond and promotes oxidation of -SH. O_2 exhibits the same influence on irradiated nucleic acid, which explains the effect of oxygen in living cells. There are 1 figure and 2 tables.

ASSOCIATION: Institut biokhimii im. A. N. Bakha, AN SSSR (Institute of Biochemistry im. A. N. Bakh, AS USSR)

PAVLOVSKAYA, T. YE.

AID Nr. 972-21 20 May

EFFECT OF OXYGEN ON BOUND PIGMENTS IN IRRADIATED PROTEINS (USSR)

Pavlovskaya, T. Ye., and A. G. Pasynskiy. IN: Akademiya nauk SSSR. Doklady, v. 149, no. 4, 1 Apr 1963, 976-978. S/020/63/149/004/025/025

Attempts were made to measure the amount of bound oxygen in nonirradiated human serum albumin and in human serum albumin exposed to a 130,000-r dose of x-rays in vacuum and in air. Malachite green was added to the samples immediately after irradiation. The mean measurement results were as follows:

Serum albumin sample	Molecules of bound pigment per molecule of albumin
Nonirradiated	1.0
Irradiated in vacuum	3.0
Irradiated in air	2.0

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EFFECT OF OXYGEN [Cont'd] S/020/63/149/004/025/025

The observed decrease in the bound pigment content of albumin irradiated in air may be explained by the displacement of pigment by oxygen. Since the decrease in the bound pigment content does not exceed 1 molecule per molecule of albumin, it is assumed that the bound oxygen content of irradiated albumin has a similar value. [AB]

KRETOVICH, V.L., otv. red.; PAVLOVSKAYA, T.Ye., kand. biol.nauk, red.; DEBORIN, G.A., kand. khim.nauk, red.; KRASIL'NIKOVA, G.V., red.izd-va; PASHKOVSKIY, Yu.A., red.izd-va; ASTAF'YEVA, G.A., tekhn. red.

[Problems of evolutionary and technical biochemistry on the 70th birthday of Academician A.I.Oparin] Problemy evoliutsionnoi i tekhnicheskoi biokhimii; k 70-letiiu akad. A.I.Oparina. Moskva, Izd-vo "Nauka," 1964. 363 p. (MIRA 17:3)

1. Akademiya nauk SSSR. Institut biokhimii. 2. Chlen-korrespondent AN SSSR (for Kretovich).

PASYNSKIY, A.G.; PAVLOVSKAYA, T.Ye.

Formation of biochemically important compounds during the prebiological stage of earth evolution. Usp. khim. 33 no.10:1198-1215 O '64. (MIRA 17:11)

1. Institut biokhimii imeni A.N. Bakha AN SSSR.

PAVLOVSKAYA, V. A.

"Petroleum Sulfo Acids and their Tech. Utilization, Journal of Applied Chemistry, USSR, 16, 129-133, 1943 (French summary)
C. A., Vol. 38, March 20, 1944.

KORMAKOVA, Ye.G.; PAVLOVSKAYA, V.G.

Behavior of complex electron emitters in prolonged experiments.
Izv. AN SSSR Ser. fiz. 22 no.5:505-512 My '58. (MIRA 11:6)
(Electron emission)

AUTHORS: Kormakova, Ye. G., Pavlovskaya, V. G. 48-22-5-4/22

TITLE: The Behaviour of the Composite Emitters of Secondary Electrons in Long Lasting Operation (Povedeniye slozhnykh emitterov vtorichnykh elektronov pri dlitel'noy ikh rabote)(Data From the VIIIth All-Union Conference on Cathode Electronics, Leningrad, October 17 - 24, 1957)(Materialy VIII Vsesoyuznogo soveshchaniya po katodnoy elektronike, Leningrad, 17-24 oktyabrya 1957 g.)

PERIODICAL: Izvestiya Akademii Nauk SSSR, Seriya Fizicheskaya, 1958 Vol. 22, Nr 5, pp. 505-512 (USSR)

ABSTRACT: In this work an oxygen-magnesium emitter in electron multipliers is discussed, which of all known emitters has proved to be the best suited one for this purpose. The mentioned emitter has a sufficiently high coefficient of secondary emission ($\sigma = 6 \div 10$ in case of a velocity of the primary electrons of from 300 ÷ 400 V) and is perfectly stable. A temperature increase until 600°C does not essentially change the secondary emission. If no humidity present, these emitters do not lose the secondary emission in air (reference 1). In the latest time the mentioned emitter is produced by a certain activation of alloys of Ag, Al, Cu, and other metals with Mg (Refs 2,

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The Behaviour of the Composite Emitters of Secondary Electrons in Long Lasting Operation. (Data From the VIIIth All-Union Conference on Cathode Electronics, Leningrad, October 17-24, 1957) 48-22-5-4/22

3) in a simple way. After the performed measurements the authors came to the following conclusions: 1) The modification of the secondary emission of the oxygen-magnesium emitter by activation of an aluminium-magnesium alloy amounted to a few percent after from 6 - 8 hours of operation some %. The emitter was used in multipliers with a thermocathode; the current density at the last emitters was 1-1.5 mA cm^{-2} and the velocity of the primary electrons was 60 V. The greatest emission change takes place just after the joining up of the emitter, (30 minutes - 2 hours), after which the emission becomes stable. During this period the emitter develops, whereby mainly the adsorbed oxygen separates from the surface and the structure of the emitter changes to some extent. The character and the magnitude of the mentioned emission change after some time are mainly determined by the anodic current or by the current density on the concerned emitter. By increasing the velocity of the primary electrons and corresponding with the operation voltage at the multiplier the stability of the emission decreases. 2) In multipliers with a photocathode the stability of the emi-

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The Behaviour of the Composite Emitters of Secondary Electrons AS 22 5 4/22
in Long Lasting Operation. (Data From the VIIIth All-Union Conference on Cathode Electronics, Leningrad, October 17-24, 1957)

ssion of the oxygen-magnesium emitter decreases, if it is worked by cesium, compared with a "pure" oxygen-magnesium emitter in multipliers with a thermocathode. For multipliers with a photocathode the change of the amplification is dependent on the value of the anodic current to a still higher degree than for multipliers with a thermocathode: The magnitude as well as the character of the modification of the photomultiplier are changed. 3) The stability of the oxygen-magnesium emitter depends on the magnitude of the coefficient, the lower the stability in operation. The same fact also was observed in the "pure" oxygen-magnesium emitter with a thermocathode. 4) If an apparatus with such emitters is subjected to high requirements, a training of the device before the measurements is recommended. In the discussion on the abstract participated G. S. Vil'dgrube L. G. Leytezen and the first author. There are 10 figures, and 4 references, 2 of which are Soviet.

1. Secondary emitters--Performance 2. Secondary emitters--Selection
3. Secondary emitters--Properties

Card 3/3

YAKUBTSOV, S.I.; PAVLOVSKAYA, V.O.

Effectiveness of simazine and atrazine in the monocultures of corn. Trudy VIZR no.17:344-358 '63. (MIRA 16:7)

MALYUCHKOV, O. T.; PAVLOVSKAYA, V. S.; OSTROVSKIY, G. A.

Method of the reversible change of the field of permanent magnet of a nuclear magnetic resonance-spectrometer. Zav. lab. 28 no.12:1457-1458 '62. (MIRA 16:1)

1. Moskovskiy institut stali i splavov.

(Nuclear magnetic resonance and relaxation)
(Spectrometer)

PAVLOVSKAYA, V.S.

Investigating concentration heterogeneities in alloys by the nuclear magnetic resonance method. Izv. vys. ucheb. zav.; chern. met. 6 no.11:143-145 '63. (MIRA 17:3)

1. Moskovskiy institut stali i splavov.

PAVLOVSKAYA, V.S.; YEDNERAL, A.F.

Use of the nuclear magnetic resonance method in studying inhomogeneous solid solutions of Al - Ag. Fiz. tver. tela 6 no.7:2072-2074 Jl '64. (MIRA 17:10)

1. Moskovskiy institut stali i splavov.

PAVLOVSKAYA, V.S.; GEL'MAN, Yu.A.

Investigating the aging of aluminum-zinc alloys by the nuclear magnetic resonance method. Fiz. met. i metalloved. 13 no.4: 517-520 Ap '62. (MIRA 16:5)

1. Moskovskiy institut stali.
(Aluminum-zinc alloys—Hardening)
(Nuclear magnetic resonance and relaxation)

AUTHORS: Malyuchkov, O. T., Pavlovskaya, V. S. SOV/163-58-3-38/49

TITLE: A Permanent Magnet for the Radiospectroscopic Investigation of Nuclear Magnetic Resonance in Metals and Alloys (Postoyannyy magnit k radiospektrometru dlya issledovaniya yadernogo magnitnogo rezonansa v metallakh i splavakh)

PERIODICAL: Nauchnyye doklady vysshey shkoly. Metallurgiya, 1958, Nr 3, pp 231 - 235 (USSR)

ABSTRACT: To each orientation of the atomic spin corresponds a certain value of the real magnetic moment of the nucleus located in the magnetic field, i.e. to each orientation corresponds an energetic state of the nuclear spin. The nuclear paramagnetic resonance is analogous to the absorption spectrum in the absorption range. The energetic state of the magnetic moment in the nucleus is determined by the radioelectronic equipment used in the radiospectroscopic measurements. To determine the nuclear magnetic resonance in metals and alloys a permanent magnet for the radiospectrometry

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A Permanent Magnet for the Radiospectroscopic Investigation of Nuclear Magnetic Resonance in Metals and Alloys

SOV/163-58-3-38/42

was produced under the supervision of B.M.Finkelstein. The alloy ANKO [illegible] (GOST 4402 - 48) was used as source material for this permanent magnet. The magnet consists of 18 disks with a diameter of 230 mm; it is 50 mm high. Figure 2 shows the position of the disks as related to one another with respect to the frame consisting of Armco iron. The magnetic disks cast of this material have high magnetic properties, namely: B_r=13100 Gauss, H_c= 575 Oersted B_d= 11000 Gauss, H_d= 450 Oersted; $(BH)_{max}$= 4,9 x 10^6 Gauss-Oersted. With all this properties the cast disks meet the requirements for the production of permanent magnets. There are 4 figures and 8 references, 3 of which are Soviet.

ASSOCIATION: Moskovskiy institut stali (Moscow Steel Institute)

SUBMITTED: December 23, 1957

Card 2/2

37696

S/126/62/013/004/004/022
E021/E435

18.1210 (2402)

AUTHORS: Pavlovskaya, V.S., Gel'man, Yu.A.

TITLE: Study of the ageing of aluminium-zinc alloys by the method of nuclear magnetic resonance

PERIODICAL: Fizika metallov i metallovedeniye, v.13, no.4, 1962, 517-520

TEXT: The natural ageing of Al-Zn alloys containing 7.8, 11.2, 13.9 and 22.9 wt % Zn was studied by means of nuclear magnetic resonance, obtaining data on deviations of the electrical field from cubic symmetry. The alloys, prepared from 99.99% Al and 99.96% Zn, were melted in a muffle furnace at 700°C in graphite crucibles under a flux. After casting into iron moulds, the billets were homogenized at 450°C for 50 hours in evacuated sealed flasks. Powdered samples (53 μ) from the billets were then sealed in an evacuated flask and heated for 1 hour at 500°C to obtain solid solution, cooled to 250°C, held for 30 minutes and quenched in cold water (10°C). After drying on filter paper for 15 to 20 minutes, the powder was placed in the measuring head of a radiospectrometer in a 1.5 cm^3 glass tube. The first

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S/126/62/013/004/004/022
E021/E435

Study of the ageing of ...

derivatives of the absorption lines from the nucleus Al^{27} were recorded. The main parameters showing the kinetics of ageing are the integral intensity and the mean square width of the lines. With increase in zinc concentration, both parameters decrease showing an increase in the relative number of aluminium nuclei in distorted parts of the lattice. There are two maxima on the I-time curve which are displaced to the left with increase in zinc content, indicating an accelerated ageing with increase in zinc. When the Al - 22.9% Zn alloy was air-cooled in place of water-quenching, the maxima were displaced to the right, indicating a retardation in the ageing process. There are 2 figures.

ASSOCIATION: Moskovskiy institut stali (Moscow Steel Institute)

SUBMITTED: May 21, 1961

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S/032/62/028/012/007/023
B104/B186

AUTHORS: Malyuchkov, O. T., Pavlovskaya, V. S., and Ostrovskiy, G. A.

TITLE: A method of reversibly varying the field of a permanent magnet of an n.m.r.-spectrometer

PERIODICAL: Zavodskaya laboratoriya, v. 28, no. 12, 1962, 1457-1458

TEXT: In studying broad n.m.r. lines it is necessary to vary the intensity H of the main field when the mode of operation of the generator is given. A method of varying the field strength of a permanent magnet is proposed which covers a wider range than has hitherto been possible. This is done by means of magnetic coils inserted in the gap (Fig. 1). The magnetic flux is much changed by the coils: only a part of the magnetic flux (Φ_A) of the coils producing a demagnetizing field, whilst the other part (Φ_L) branches off. Using small coils Φ_A can be kept low. Tests were made with a magnetization assembly for ± 215 oe designed earlier (O. T. Malyuchkov, V. S. Pavlovskaya, Nauchnyye doklady Vysshey shkoly, no. 3, 231 (1958)),

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using the coils shown in Fig. 2. After a demagnetizing field of 21[illegible] oe had been applied and removed again, no residual magnetization of the permanent magnet could be detected. To produce ±215 oe in the gap it was sufficient to feed the coils with 0.15 a, resulting in a field of ±13[illegible] oe; the additional field strength is produced by changed inductance of the armco iron pole pieces. Even greater field shifts (± 500 oe) may be achieved by cooling the coils. There are 3 figures.

ASSOCIATION: Moskovskiy institut stali i splavov (Moscow Institute of Steel and Alloys)

Fig. 1. Schematic drawing of the magnetic fluxes.

Fig. 2. Diagram of the magnetization assembly. Legend: (1) coils (radius r = 32 mm, wire 0.3 mm thick, 5400 turns), (2) pole pieces, (3) sample, (4) electronics.

PAVLOVSKAYA, V.S.; PODD'YAKOV, V.N.; FINKEL'SHTEYN, B.N.

Studying the aging of duralumin by the nuclear magnetic resonance method. Fiz. met. i metalloved. 10 no.3:346-349 S '60. (MIRA 13:10)

1. Moskovskiy institut stali im. I.V.Stalina.
(Duralumin) (Nuclear magnetic resonance)

L 36302-65 EWT(1)/EEC(t)/EEC(b)-2 Pi-4 IJP(c)
ACCESSION NR: AP4041711 UR/0181/64/006/007/2072/2074

AUTHOR: Pavlovskaya, V. S.; Yedneral, L. F.

TITLE: Investigation of inhomogeneous solid solutions of Al-Ag alloys by the method of nuclear magnetic resonance

SOURCE: Fizika tverdogo tela, v. 6, no. 7, 1964, 2027-2074

TOPIC TAGS: aluminum alloy, alloy system, nuclear magnetic resonance, alloy aging, microdefect, solid solution

ABSTRACT: Continuing an earlier study of the aging of alloys, (V. S. Pavlovskaya and Yu. A. Gel'man, FMM v. 13, 517, 1962), the authors used the same experimental procedure as before to measure the intensities of NMR lines of Al^{27} in pure (99.99%) aluminum and in Al-Ag alloys containing 0.11--1.3 at.% silver and subjected to various heat treatments. The test results show that the solubility limit of silver in aluminum at room temperature is 0.14 at.% Ag. In addi-

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L 36302-65
ACCESSION NR: AP4041711

tion, the local concentrations and relative volumes of the inhomogeneity regions were determined for naturally aged alloys containing 0.24--1.3 at.% Ag. The results demonstrate clearly the high sensitivity of the NMR method and offer evidence that this method yields new data on the microinhomogeneities in supersaturated metallic solid solutions. Orig. art. has: 2 formulas and 1 table.

ASSOCIATION: Moskovskiy institut stali i splavov (Moscow Institute of Steel and Alloys)

SUBMITTED: 29Jan64 ENCL: 01

SUB CODE: SS, MM NR REF SOV: 004 OTHER: 004

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L 36302-65
ACCESSION NR: AP4041711

ENCLOSURE: 01

Data on local concentrations and relative volume of the matrix in naturally aged alloys

C	C_M	C_3	f
at. %			f, %
0.24	0.13	2.1	95
0.50	0.15	2.2	83
0.90	0.22	2.1	65
1.30	0.26	2.2	45

C - average concentration, C_M - silver concentration in matrix, C_3 - silver concentration in segregations, f - matrix relative volume

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PAVLOVSKAYA, V.V.

SUBJECT USSR / PHYSICS CARD 1 / 2 PA - 1939
AUTHOR GOVORKOV,B.B., GOL'DANSKIJ,V.I., KARPUCHIN,O.A., KUZENKO,A.V. PAVLOVSKAJA, V.V.
TITLE The Elastic Scattering of γ -Quanta with an Energy of up to 120 MeV by Protons.
PERIODICAL Dokl.Akad.Nauk 111,fasc.5,988-991 (1956)
Issued: 1 / 1957

Experiments were carried out by means of the 265 MeV-synchrotron of the Physical Institute "P.N.LEBEDEV" of the Academy of Science in the USSR. For the purpose of reducing the photon load of individual counters work was carried out in such a manner that the duration of the impulses of the synchrotron amounted to 1000 μ sec (instead of the usual 30 μ sec). The spectrum of the electrons impinging upon the target of the synchrotron was nearly triangular with the base of 75 to 119 MeV and with the maximum at 97 MeV. The elastic γ p-scattering at these energies was investigated by registration of the scattered γ -quanta solely with the help of telescopes which consist of scintillation counters. An attached drawing illustrates this experimental order. Observation was carried out with two telescopes which were fitted simultaneously under the angles 90 and 90°, 45 and 90°, 45 and 135° (in the laboratory system). Each telescope consisted of four liquid-scintillation-counters with a solution of terphenyl in toluene. The recording threshold for the γ-quanta in the case of both telescopes amounted to ~ 40 MeV. The light pulses emitted from the scintillators were recorded by means of photoelectronic multipliers

Dokl.Akad.Nauk 111,fasc.5,988-991 (1956) CARD 2 / 2 PA - 1939

FEU - 19 - II. Liquid hydrogen was used in a target vessel of penopolystirol. The determination of the effectively acting volume of the target is described.

Experimental results are shown in form of a graph. The cross section for the angle 90° amounts to $d\sigma/d\Omega = (1,35 \pm 0,13).10^{-32}$ cm^2/sterad and agrees well with the results obtained by C.OXLEY and V.TELEGDI, Phys.Rev.100,435 (1955). However, in contrast to this work, the authors obtained a predominating scattering of photons into the rear hemisphere (for 45° - $d\sigma/d$ = $= (1,40 \pm 0,17).10^{-32}$ cm^2/sterad; for 135°- $(2,25 \pm 0,45).10^{-32}$ cm^2/sterad). This result has the following significance: Already at energies of γ quanta of up to 120 MeV the analysis of the COMPTON effect on protons, which is based only on the value of the anomalous statistical magnetic moment and results in a certain predominance of scattering in to the front hemisphere, is found to be insufficient. Apparently the interference of the scattering of γ -quanta on the proton as a punctiform source and on the nucleon-isobar becomes noticeable already at such energies, viz. because of the existence of an asymmetric nulceon cloud a dynamic magnetic moment of the nucleons occurs.

INSTITUTION: Physical Institute "P.N.LEBEDEV" of the Academy of Science in the USSR

PAVLOVSKAYA, V.V.

9035 (German) Cost of Fission in Atomic Power Reactors. Spaltstoffkosten in Atomkraftwerken. [illegible] Atomwirtschaft, v. 11, Feb. 1957, p. 44-49.

9042 (Russian) Cross Section for Photoproduction of π⁻ Mesons as Dependent on Mass Number of Nuclei. Zavisimost' sechenii fot[illegible] [illegible] mezonov ot massovogo chisla [illegible]

PAVLOVSKAYA, V. V.

"Dependence of Cross Section for Photoproduction of π^0-Mesons on Mass Number of Nuclei," by B. B. Govorkov, V. I. Gol-danskiy, O. A. Karpukhin. A. V. Kutsenko, and V. V. Pavlovskaya, Doklady Akademii Nauk SSSR, Vol 112, No 1, Jan 57, pp 37-40

The article describes "more accurate" measurements of the variation of cross section for π^0-meson production with mass number. "A particularly careful investigation was made in the region of small A."

The experimental technique is described. The 265-Mev synchrotron of the Physics Institute, Academy of Sciences USSR, was used.

A table of the cross sections relative to that for hydrogen and a graph of relative cross section vs mass number are given. (U)

SUM. 1360

Pavlovskaya, V.V

81979

S/120/60/000/03/004/055
E032/E514

24.6810

AUTHORS: Gol'danskiy, V.I., Karpukhin, O.A. and Pavlovskaya, V.V.

TITLE: Determination of the Energy Dependence of the Efficiency of Recording of High-Energy Gamma Rays

PERIODICAL: Pribory i tekhnika eksperimenta, 1960, No 3, pp 23-26

ABSTRACT: A new method is described for determining the energy dependence of the efficiency of recording of high-energy gamma rays (35-50 MeV) using a coincidence telescope. The method is based on measurements of Compton scattered gamma rays. The Compton cross-section is well-known and is given by the Klein-Nishina formula. At small angles the scattered gamma rays have a relatively large energy. Thus, for example, at a scattering angle of $\theta = 3°$ and incident gamma ray energy of 250 MeV, the energy of the scattered gamma ray is about 150 MeV. Thus by placing a gamma ray telescope at an angle of 3° to the beam axis, and by varying the maximum energy of the bremsstrahlung from a synchrotron, one can examine a wide energy range. The experiment was carried out in the gamma-beam of the

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81979

S/120/60/000/03/004/055
E032/E514

Determination of the Energy Dependence of the Efficiency of Recording of High-Energy Gamma Rays

265 MeV synchrotron at the Physics Institute, Ac.Sc., USSR. The experimental arrangement is shown in Fig 1. The gamma ray beam from the synchrotron target was collimated by a lead collimator, its maximum energy being set to 250, 200, 150, 115, 80 and 60 MeV. The gamma rays scattered at angles less than 3° were detected by the four-counter telescope shown in Fig 2. The efficiency of recording of gamma rays between 35 MeV and 150 MeV was measured as a function of energy, and the result obtained is shown in Fig 5.
Acknowledgment is made to A.V.Kutsenko, A.Samiullin, S.P. Balat'yev and Ye. M. Petrov for help during the measurements.
There are 5 figures and 7 English references.

ASSOCIATION: Fizicheskiy institut AN SSSR (Physics Institute, Ac.Sc., USSR)

SUBMITTED: May 25, 1959
Card 2/2

L 23129-66 EWT(1)/EWA(h)
ACC NR: AP6001572 (A) SOURCE CODE: UR/0120/65/000/006/0084/0089

AUTHOR: Aleksandrov, Yu. A.; Kutsenko, A. V.; Maykov, V. N.; Pavlovskaya, V. V.; Solov'yev, S. G.

ORG: Institute of Physics, AN SSSR (Fizicheskiy institut AN SSSR)

52
B

TITLE: Using an AI-100 pulse analyzer as a storage device

SOURCE: Pribory i tekhnika eksperimenta, no. 6, 1965, 84-89

TOPIC TAGS: pulse analyzer, computer storage device/ AI-100 pulse analyzer

ABSTRACT: The remodeling of an AI-100 pulse analyzer for purposes of measuring two simultaneous pulses is described; a fifth program ("storage operation") is introduced into the AI-100. The storage is controlled from the outside, while the arithmetic unit is used for receiving and recording two simultaneous pulse trains. The resulting storage device has a constant dead time at its two inputs of 120 μsec, a pulse-height range of 1—100 v, and 99 storage addresses for synchronously recording the results of measuring two pulses. Tables of operations and commands are given. Such a remodeled analyzer has been used for one year in conjunction with two Cerenkov total-absorption spectrometers (with the 680-Mev FIAN synchrotron). Orig. art. has: 1 figure and 2 tables.

SUB CODE: 09 / SUBM DATE: 23Nov64 / ORIG REF: 002

Card 1/1 PB

UDC: 621.374.3

ACC NR: AP6022040 SOURCE CODE: UR/0120/66/000/003/0221/0222

AUTHOR: Aleksandrov, Yu. A.; Kutsenko, A. V.; Maykov, V. N.; Pavlovskaya, V. V.

ORG: Physics Institute, AN SSSR, Moscow (Fizicheskiy institut AN SSSR)

TITLE: A water soluible epoxial glue for scintillation counters

SOURCE: Pribory i tekhnika eksperimenta, no. 3, 1966, 221-222

TOPIC TAGS: glue, epoxy plastic, photomultiplier, cerenkov counter, scintillation counter

ABSTRACT: A water-soluble glue for use in scintillation counters, Cerenkov spectrometers, and other similar equipment has been developed. The glue provides good, uniform optical and mechanical contacts between photoelectric amplifiers and irradiating or light-conducting media. The glue is made from a DEG-1 epoxial resin (a glycerin compound) and a DEG-1 hardener. The glue maintains its consistency 40 to 60 min after it is prepared; it requires approximately 20 hr to fully harden. It takes from several hours to several days to dissolve the glue joints depending on their thickness, the temperature, and rate-of-flow of water, and the surface area of the joint that is exposed to water. The light conducting properties of the glue have been studied on scintillation counters and have been found satisfactory. The authors thank Ye. S. Potekhina, L. A. Skrylova, and Ye. M. Blyakhman for consultations and for supplying the specimens.

SUB CODE: 18,11,09/ SUBM DATE: 14May65/ ORIG REF: 001/ OTH REF: 001 UDC: 539.1.074.3

Card 1/1

ACC NR: AP7001938 SOURCE CODE: UR/0120/66/000/012/0050/0054

AUTHOR: Aleksandrov, Yu. A.; Kutsenko, A. V.; Maykov, V. N.; Pavlovskaya, V. V.

ORG: Physics Institute, AN SSSR, Moscow (Fizicheskiy institut AN SSSR, Moskva)

TITLE: A system of correlated Cherenkov spectrometers with analysis of data on an M-20 computer

SOURCE: Pribory i tekhnika eksperimenta, no. 6, 1966, 50-54

TOPIC TAGS: nuclear radiation spectrometer, spectrometer, Cerenkov counter, computer application

ABSTRACT: A system designed to measure correlated γ-quanta or electrons in the 100—600-Mev range is described. The system, originally designed to study neutral particles generated by a 680 Mev synchrotron, consists of two full-absorption Cherenkov spectrometers working either in a coincidence or an anticoincidence mode, recording and storage logic circuits, and calculating and output equipment. The recording and storage logic circuits consist of an AI-100 analyzer with a changeable program, linear amplifiers, and transistorized and tunnel-diode logic circuitry. Control and calculation is performed by an M-20 computer.

UDC: 539.1.074.04

Card 1/2

ACC NR: AP7001938

Input to the computer is on 80-column punched cards. The output equipment comprises a card punch (the output card punch of the M-20 computer), an EUM-23 electric typewriter, and a number of calculating devices of the PS-100 system. The system output is a 100 x 100 x,y printed matrix. Information along the x and the y axes indicates the pulse amplitude registered by the first and second spectrometers. Some of the system parameters are: energy resolutions, ± 21.5—9.5%; resolving time of the two spectrometers connected for coincidence, 5 nsec; dead time when registering occurrences, 130 nsec; capacity of the operating intermediate memory, 99 addresses with 16 bits in each; readout time from the intermediate memory, 10 sec (on a punched card); system process time for 10,000 numbers (including input and output time), 10 min. Orig. art. has: 1 figure

SUB CODE: 18/ SUBM DATE: 17Nov65/ ORIG REF: 007/ OTH REF: 002

Card 2/2

L 28055-66 EWT(l)/ETC(m)-6 IJP(c) WW

ACC NR: AP5027008 SOURCE CODE: UR/0120/65/000/005/0045/0048

AUTHOR: Aleksandrov, Yu. A.; Kutsenko, A. V.; Maykov, V. N.; Pavlovskaya, V. V. 46 44 B

ORG: Institute of Physics of AN SSSR, Moscow (Fizicheskiy institut)

TITLE: Time characteristics of Cerenkov total-absorption spectrometer

SOURCE: Pribory i tekhnika eksperimenta, no. 5, 1965, 45-48

TOPIC TAGS: gamma spectroscopy, Cerenkov radiation, Cerenkov counter, photomultiplier tube

ABSTRACT: In order to investigate the resolving time of a Cerenkov spectrometer, a method of coincidence circuits was applied. A spectrometer (described in PTE 1964, no. 34, p. 38) with a 300-mm radiator was used. The light from the radiator was collected by the FEU-49 photomultiplier tube. The coincidence circuit was formed by the addition of two FEU-36 photomultipliers which had an adequate amplification factor and a time spread not greater than 2 nsec. By such an arrangement a resolving time of about 4×10^{-9} sec was obtained without diminishing the 100-pct efficiency of recording the gamma quanta in the range from 100 to 600 Mev. After a preliminary theoretical study, the experiments

Card 1/2 UDC: 539.1.074.4

were conducted and the performance of the coincidence circuit was tested. The experimental curves showed that at the electron energy of 100 Mev, a 100-pct efficiency of recording was attained when two additional FEU-36 photomultipliers were included in the circuit. The dependence of the recording efficiency upon the resolving time was also investigated and the curves of "delayed" coincidences were plotted for electron beam energies of 100 and 500 Mev. In the case of 100 Mev, the best resolving time was 4.7×10^{-9} sec while at 500 Mev the 100-pct efficiency was attained at about 4×10^{-9} sec. The comparison of these results with the data published by other authors showed the superiority of the above arrangement. The authors expressed their appreciation to Ye. M. Leykin for the discussion of various problems, to T. I. Kovaleva for the selection of FEU-36 tubes and the assistance in measurements, and to the personnel operating the 680-Mev synchrotron. Orig. art. has: 3 graphs, 1 table and 1 formula.

SUB CODE: 18 / SUBM DATE: 21Aug64 / ORIG REF: 003 / OTH REF: 003

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239710011-6"

L 28055-66 EWT(l)/ETC(m)-6 IJP(c) WW

ACC NR: AP5027008 SOURCE CODE: UR/0120/65/000/005/0045/0048

AUTHOR: Aleksandrov, Yu. A.; Kutsenko, A. V.; Maykov, V. N.; Pavlovskaya, V. V.

ORG: Institute of Physics of AN SSSR, Moscow (Fizicheskiy institut)

TITLE: Time characteristics of Cerenkov total-absorption spectrometer

SOURCE: Pribory i tekhnika eksperimenta, no. 5, 1965, 45-48

TOPIC TAGS: gamma spectroscopy, Cerenkov radiation, Cerenkov counter, photomultiplier tube

ABSTRACT: In order to investigate the resolving time of a Cerenkov spectrometer, a method of coincidence circuits was applied. A spectrometer (described in PTE 1964, no. 34, p. 38) with a 300-mm radiator was used. The light from the radiator was collected by the FEU-49 photomultiplier tube. The coincidence circuit was formed by the addition of two FEU-36 photomultipliers which had an adequate amplification factor and a time spread not greater than 2 nsec. By such an arrangement a resolving time of about 4×10^{-9} sec was obtained without diminishing the 100-pct efficiency of recording the gamma quanta in the range from 100 to 600 Mev. After a preliminary theoretical study, the experiments

Card 1/2 UDC: 539.1.074.4

were conducted and the performance of the coincidence circuit was tested. The experimental curves showed that at the electron energy of 100 Mev, a 100-pct efficiency of recording was attained when two additional FEU-36 photomultipliers were included in the circuit. The dependence of the recording efficiency upon the resolving time was also investigated and the curves of "delayed" coincidences were plotted for electron beam energies of 100 and 500 Mev. In the case of 100 Mev, the best resolving time was 4.7×10^{-9} sec while at 500 Mev the 100-pct efficiency was attained at about 4×10^{-9} sec. The comparison of these results with the data published by other authors showed the superiority of the above arrangement. The authors expressed their appreciation to Ye. M. Leykin for the discussion of various problems, to T. I. Kovaleva for the selection of FEU-36 tubes and the assistance in measurements, and to the personnel operating the 680-Mev synchrotron. Orig. art. has: 3 graphs, 1 table and 1 formula.

SUB CODE: 18 / SUBM DATE: 21Aug64 / ORIG REF: 003 / OTH REF: 003

KUTSENKO, A.V.; MAYKOV, V.N.; PAVLOVSKAYA, V.V.

Cherenkov total-absorption gamma spectrometer. Prib. i tekh. eksp. 9 no.4:38-43 Jl-Ag '64. (MIRA 17.12)

1. Fizicheskiy institut AN SSSR.

L 16015-65 EWT(m) DIAAP/AEDC(b)
ACCESSION NR: AP4014666 S/0120/64/000/004/0038/0043

AUTHOR: Kutsenko, A. V.; Maykov, V. N.; Pavlovskaya, V. V.

TITLE: Cherenkov total-absorption γ-spectrometer

SOURCE: Pribory* i tekhnika eksperimenta, no. 4, 1964, 38-43

TOPIC TAGS: spectrometer, gamma spectrometer, Cherenkov gamma spectrometer, total absorption, resolution, energy resolution, total absorption gamma spectrometer

ABSTRACT: A variant of the Cherenkov total-absorption γ-spectrometer which utilizes a conic radiator made of lead glass and only one photomultiplier is proposed. Its characteristics were investigated by a synchrotron whose maximum γ-quantum energy was 680 Mev. The operating frequency of the accelerator was 1 pulse/6 sec, and the mean number of electrons in a pulse was 10^{10}. The duration of the radiation pulse was increased to 8 μsec during calibration. It was found that the energy resolution varies from 43 to 19% over the range of 80-600 Mev. The use of only one photomultiplier eliminated the need for sum

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L 16015-65
ACCESSION NR: AP4044666

circuits and simplified the design and tuning of the device. Compared with similar devices the spectrometer is claimed to possess a better energy resolution in the 80-600 Mev energy range. Orig. art. has: 6 figures and 1 table.

ASSOCIATION: Fizicheskiy institut AN SSSR (Physics Institute AN SSSR)

SUBMITTED: 18Jul63 ENCL: 00

SUB CODE: EC NO REF SOV: 005 OTHER: 004

Card 2/2

GOL'DANSKIY, V.I.; KARPUKHIN, O.A.; PAVLOVSKAYA, V.V.

Determination of the energy dependence of the efficiency in recording high-energy gamma quanta. Prib. i tekh. eksp. no.3: 23-26 My-Je '60. (MIRA 14:10)

1. Fizicheskiy institut AN SSSR.
(Gamma rays)

PAVLOVSKAYA, V. V.

Cand Phys-Math Sci - (diss) "Elastic γp-scattering at energies of 40-70 Mev and the polarizability of the proton." Dubna, 1961. 12 pp; (Academy of Sciences USSR, Physics Inst imeni P. N. Lebedev); 160 copies; price not given; (KL, 5-61 sup, 174)

85676

S/056/60/038/006/018/049/XX
B006/B070

24.6900 (1138, 1191, 1559)

AUTHORS: Gol'danskiy, V. I., Karpukhin, O. A., Kutsenko A. V., Pavlovskaya, V. V.

TITLE: Elastic γp Scattering at Energies of 40 - 70 Mev and the Polarizability of the Proton

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, 1960, Vol. 38, No. 6, pp 1695 - 1707

TEXT: The present paper gives a detailed description of the results of scattering experiments, of the determination of the differential elastic γp scattering cross sections, and of a comparison of the results with theory. The object of the experiments was to obtain more exact data giving a definite information on the polarizability of the proton The experiments were carried out on the 265-Mv synchrotron of FIAN in the gamma energy range of 40 - 70 Mev (maximum bremsstrahlung energy, 75 Mev), and so essentially lower than the π^0 production threshold The experimental arrangement is schematically shown in Fig. 1 The

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Elastic γp Scattering at Energies of 40 - 70 Mev and the Polarizability of the Proton

S/056/60/038/006/018/049/XX
B006/B070

target was a cylindrical vessel (3 5 1) filled with liquid hydrogen Two telescopes consisting of four scintillation counters with a lead converter behind the first and an aluminum filter in front of the last served as high-threshold (~35Mev) gamma detectors Each counter was connected with an ФЭУ-33 (FEU-33) The block diagram of the electronic apparatus is shown in Fig. 2 A thin-walled ionization chamber placed in front of the first collimator served as an intermediate monitor The duration of the electron pulses of the synchrotron was up to ~300 μsec The detecting telescopes were placed at angles of 45, 75, 90, 120, 135 and 150° with respect to the bremsstrahlung beam. The experimental conditions and the apparatus are thoroughly described in the paper One section is devoted to the description of the telescope efficiency and one to the evaluation of the experimental results. A table gives the measured values of dσ/dΩ the necessary corrections and the final values. The determination of the corrections for the background and for the absorption in the target and the determination of the systematic errors are discussed in the text

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Elastic γp Scattering at Energies of 40 - 70 Mev and the Polarizability of the Proton

S/056/60/038/006/018/049/XX
B006/B070

The data obtained are compared with the theoretical results which were obtained by taking into account the anomalous magnetic moment of the proton and the effects of mesonic cloud polarization (see Fig 5) From $d\sigma/d\Omega(90^\circ) = (1.10 \pm 0.05) \cdot 10^{-32}$ cm^2 steradian, the proton polarizability (electric) was found to be: $\alpha_E = (11 \pm 4) \cdot 10^{-43}$ cm^3 If dispersion relations are used in addition to the experimental results, it is possible to calculate, from the pion photoproduction data, the sum of electric and magnetic polarizability: $\alpha_E + \alpha_M = 11 \cdot 10^{-43}$ cm^3 (Fig 6) Then, taking into account also the errors, one finds $\alpha_E = (9 \pm 2) \cdot 10^{-43}$ cm^3 and $\alpha_M = (2 \pm 2) \cdot 10^{-43}$ cm^3. The results are finally discussed and compared with results of other authors. In particular, the results of neutron polarizability obtained by various authors are discussed and intercompared. From the value $\alpha_E = 9 \cdot 10^{-43}$ cm^3 obtained for protons, the root-mean-square fluctuation of the proton electric dipole length is found to be

$$(\bar{r^2})^{1/2} = 3.5 \cdot 5 \cdot 10^{-14} \text{ cm}$$

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Elastic γp Scattering at Energies of 40 - 70 Mev and the Polarizability of the Proton

S/056/60/038/006/018/049/XX
B006/B070

S. P. Balat'yev, R. G. Vasil'kov, Ye. V. Minarik, and A. Samiullin are thanked for assistance, G. Ivanov for help in the evaluation of measurements; and A. M. Baldin and V. N. Gribov for discussions. Yu. A. Aleksandrov and V. A. Petrun'kin are mentioned. There are 6 figures, 1 table, and 30 references: 10 Soviet, 18 US and 2 Dutch.

ASSOCIATION: Fizicheskiy institut im. P. N. Lebedeva Akademii nauk SSSR (Institute of Physics imeni P. N. Lebedev of the Academy of Sciences USSR)

SUBMITTED: January 12, 1960

Card 4/7

85676

S/056/60/038/006/018/049/XX
B006/B070

45	4,68±0,28	—148	3,40±0,28
75	1,21±0,08	—12,6	1,12±0,08
90	1,14±0,05	—7,7	1,10±0,05
120	1,30±0,08	—1,6	1,34±0,08
135	1,48±0,08	—1,0	1,56±0,08
150	1,82±0,07	—0,4	1,93±0,07

Fig. 1

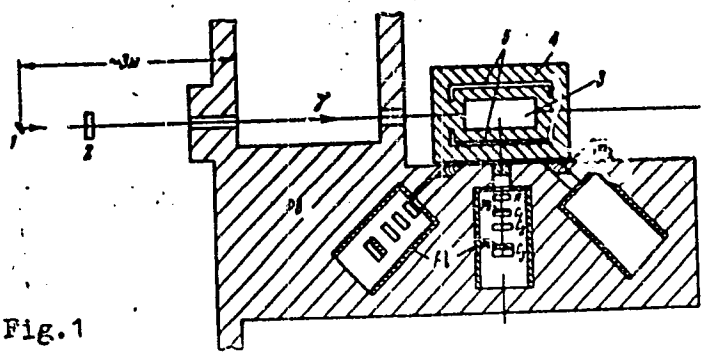

Fig. 1

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B006/B070

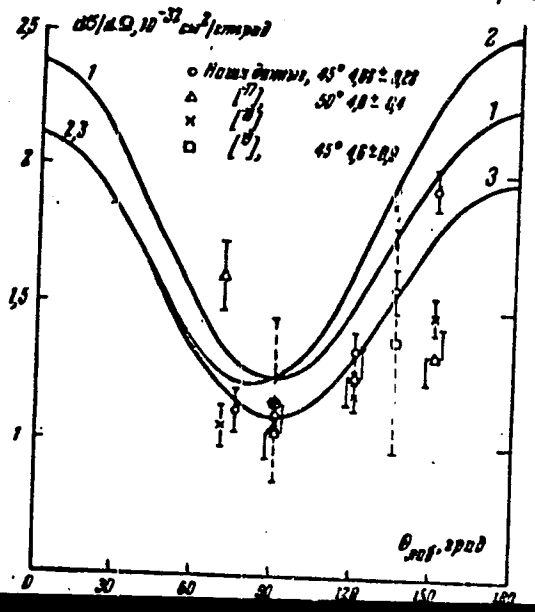

Fig. 5

Card 6/7 Fig. 5

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B006/B070

Legend to Fig. 1: 1 - synchrotron target; 2 - monitor; 3 - liquid hydrogen target; 4 - polystyrene walls; 5 - liquid N_2; C_1, C_2, C_3 scintillation counters in coincidence; A - anti-coincidence counter

Headings of the four columns of the table: angle θ [degrees]; $10^{32} \cdot d\sigma/d\Omega\,cm^2$/steradian (without corrections); total corrections; $10^{32} \cdot d\sigma/d\Omega\,cm^3$/steradian (final values). Legend to Fig. 5: Comparison of the experimental results in this paper (o) in the laboratory system with other experimental results and with theoretical curves.

Card 7/7

GOL'DANSKIY, V.I.; KARPUKHIN, O.A.; KUTSENKO, A.V.; PAVLOVSKAYA, V.V.

Elastic γp-scattering at energies of from 40 to 70 Mev and the polarizability of the proton. Zhur.eksp.i teor.fiz. 38 no.6: 1695-1707 Je '60. (MIRA 13:7)

1. Fizicheskiy institut im. P.N.Lebedeva Akademii nauk SSSR.
(Protons)

S/181/62/004/001/045/052
B123/B104

AUTHORS: Pavlovskaya, V. S., and Stark, Yu. S.

TITLE: Study of the strain hardening of copper by the method of nuclear magnetic resonance

PERIODICAL: Fizika tverdogo tela, v. 4, no. 1, 1962, 285 - 288

TEXT: Strain hardening of metals leads to lattice distortions which can be analyzed by nuclear magnetic resonance. Basing upon this fact a method was developed for determining the degree of hardening. The principal features of the quantum-mechanical perturbation theory of the nuclear magnetic resonance lines are described for a cubic lattice. The population of lattice sections with various degrees of deformation can be determined from the broadening of nuclear magnetic resonance lines caused by the hardening-induced distribution of the electric field gradient. The method was checked using copper powder of 99.99% purity and 40μ grain size. The magnetic resonance for the absorption line of Cu^{63} was measured with an РСКФ-1 (RSKF-1) radiospectrometer of the kafedra fiziki Moskovskogo instituta stali (Department of Physics of

Card 1/2

GLAVINSKAYA, T.A.; PAVLOVSKAYA, V.Ye.

Proteinemia in external beta-irradiation of experimental animals. Med. rad. 8 no.7:58-62 Jl '63. (MIRA 17:1)

1. Iz kafedry kozhnykh i venericheskikh bolezney (zav. - zasluzhennyy deyatel' nauki prof. M.P. Batunin) Gor'kovskogo meditsinskogo instituta imeni S.M. Kirova i Gor'kovskogo nauchno-issledovatel'skogo kozhno-venerologicheskogo instituta.

PAVLOVSKAYA, Ye.A., kand.med.nauk

Histopathology and neurohistology of pityriasis rosea. Vest. derm. i ven. no.9:14-20'62. (MIRA 16:7)

1. Iz kafedry dermato-venerologii i kafedry gistologii (zav. - doktor med. nauk G. A. Koblov) Saratovskogo meditsinskogo instituta.

(PITYRIASIS ROSEA)

PAVLOVSKAYA, V.Ye.

Use of frozen antigen for the treponema pallidum immobilization reaction. Lab. delo no. 11:686-688 '62. (MIRA 17:12)

1. Gor'kovskiy nauchno-issledovatel'skiy kozhno-venerologicheskiy i Tsentral'nyy kozhno-venerologicheskiy instituty. Rukovoditeli raboty prof. N.M.Ovchinnikov i prof. M.I.Batunin.

PAVLOVSKAYA, Ye. D.

Stellar Astronomy, Stellar Characteristics (172?)
Peremennyye Zvezdy, Vol 9, No 4, 1953, pp 233-255
PAVLOVSKAYA, Ye. D.
"Determining the Proper Motions of Stars of the Type RR Lyrae"
Proper motions of 35 variables were determined by comparing their rectangular coordinates on photographs taken with the 380 mm Moscow astrograph. Analyzes the data obtained.

SO: Referativnyy Zhurnal--Astronomiya i Geodeziya, No 1, Jan 54;(W-30785, 28 July 1954.)

PAVLOVSKAYA, Ye.D.

Determining the average absolute magnitude and studying the kinematics of short-period Cepheid variables. Per.zvezdy 9 no.6:349-370 O '53. (MLRA 8:2)

1. Gosudarstvennyy astronomicheskiy institut imeni P.K.Shternberga.
(Stars, Variable)

PAVLOVSKAYA, Ye.D. (Perepelkina).

Investigating the motions in space of variable stars of the type RR Lyrae. Astron. tsir. no.136:14-16 Mr '53. (MLRA 6:6)

1. Gosudarstvennyy astronomicheskiy institut imeni P.K. Shternberga, Moscow. (Stars, Variable) (Stars--Proper motion)

PAVLOVSKAYA, T.E.

Investigating the kinematics and determining the luminosity function of white dwarfs. Astron.zhur. 33 no.5:660-678 S-O '56. (MLRA 9:12)

1. Gosudarstvennyy astronomicheskiy institut imeni P.K. Shternberga.
(Stars)

PAVLOVSKAYA, Ye.D.

Periods of short-period Cepheids in the direction of the galactic center [with summary in English]. Astron. zhur. 34 no.6:956-958 N-D '57. (MIRA 11:2)

1. Gosudarstvennyy astronomicheskiy institut im. P.K. Shternberga. (Cepheids)

ZONN, V. [Zonn, Wlodzimierz], prof.; RUDNITSKIY, K. [Rudnicki, Konrad], doktor; PARENAGO, P.P., red.; PAVLOVSKAYA, Ye.D., kand.fiziko-matemat.nauk, red.; REZOUKHOVA, A.O., tekhn.red.

[Stellar astronomy] Zvezdnaia astronomiia. Pod red. P.P. Parenago. Moskva, Izd-vo inostr.lit-ry, 1959. 448 p. (MIRA 13:1)

1. Direktor astronomicheskoy observatorii Varshavskogo universiteta (for Zonn).

(Stars)

PAVLOVSKAYA, Ye. D.

Periods of short-period cepheids in the directions of the galactic center. Per.zvezdy 13 no.1:8-25 '60. (MIRA 14:3)

1. Gosudarstvennyy astronomicheskiy institut im. P.K. Shternberga.
(Cepheids)

SHAROV, A.S.; PAVLOVSKAYA, Ye.D.

Kinematics of globular clusters. Astron.zhur. 38 no.5:939-945 S-O '61. (MIRA 14:9)

1. Gosudarstvennyy astronomicheskiy institut im. P.K.Shternberga.
(Stars--Clusters)

KIRILLOVA, T. S.; PAVLOVSKAYA, Ye. D.

Statistical analysis of measurement errors of radial velocities of stars of late spectral classes. Astron. zhur. 40 no.1: 131-139 J-F '63. (MIRA 16:1)

1. Gosudarstvennyy astronomicheskiy institut im. P. K. Shternberga.

(Stars—Motion in line of sight)

L 16021-66 EWT(1) GW
ACC NR: AP6006770 SOURCE CODE: UR/0033/66/043/001/0040/0045

AUTHOR: Pavlovskaya, Ye. D.; Sharov, A. S.

ORG: State Astronomical Institute im. P. K. Shternberg. (Gosudarstvennyy astronomicheskiy institut)

TITLE: Spiral structure of the Galaxy

SOURCE: Astronomicheskiy zhurnal, v. 43, no. 1, 1966, 40-45

TOPIC TAGS: spiral galaxy, neutral hydrogen, radio astronomy, logarithmic spiral, characteristic angle

ABSTRACT: The spiral structure of our Galaxy was studied, based on neutral hydrogen, by radioastronomic methods, and the wavelength of 21cm. The total spiral structure was not discovered by radioastronomic methods and the distribution of hydrogen in the Galaxy was unexpected. The neutral hydrogen forms a complicated ring in the vicinity of the sun, which does not resemble a spiral arm. Investigations by Soviet scientists of the 21-cm line showed a probable winding angle of the spiral arm from 83° in the central part to 85° in the outer part. If it is possible to accept the existence of spiral arms in the vicinity of the sun, then

Card 1/2 UDC: 523.854

L 16024-66

ACC NR: AP6006770

they must be three or four in number forming an angle with a sight vector of 70°. The spiral untwists very rapidly at such an angle, and the observer in the vicinity of the sun can see each spiral arm. Formulas were developed for determining parameters of a logarithmic spiral, with a final result leading to an equation with three unknown parameters. To solve this equation, clusters of O to B2 stars and regions of HII were used. The characteristic angle of the spiral arms was 70°, which is typical of spiral galaxies. Spiral parameters computed are given in a table in the original article. This result makes it possible to conclude that our Galaxy has 14 arms among which clouds of hydrogen are scattered. Orig. art. has: 3 figures, 1 table, and 6 formulas. [EG]

SUB CODE: 03/ SUBM DATE: 24Feb65/ ORIG REF: 003/ OTH REF: 009/ ATD PRESS: 4203

Card 2/2

AKSENOV, Ye.P., kand.fiz.-matem.nauk; IVANOV, V.V., kand.fiz.-matem.nauk; PAVLOVSKAYA, Ye.D., kand.fiz.-matem.nauk

In the Astronomical Council; conferences of commissions. Vest.AN SSSR 35 no.6:114-118 Je '65. (MIRA 18:8)

ACCESSION NR: AT4038538 S/2623/62/000/118/0036/0045

AUTHOR: Pavlovskaya, Ye. D.

TITLE: Study of the motion of stars of different spectral and luminosity classes in a direction perpendicular to thecenter of the Galaxy

SOURCE: Moscow. Univ. Gos. astron. inst. Soobshch., no. 118, 1962, 36-45

TOPIC TAGS: astrophysics, astronomy, star, galaxy, stellar radial velocity, stellar velocity dispersion

ABSTRACT: The dispersion of stellar velocities in the direction of galactic rotation has been determined for groups of stars with different spectral and luminosity classes by a study of their radial velocities. A catalogue of all stars of spectral classes from A to M with known luminosity classes and radial velocities was compiled. The regions studied were centered at $l = 58°$, $b = 0°$ and $l = 238°$, $b = 0°$ and have radii of 30°. The radial velocities of the selected stars were corrected for solar motion toward the apex It is shown that by constructing curves of the distribution of peculiar radial velocities for each group of stars separately and representing them by normal curves it is possible to determine the sought-for dispersions of velocity. Since the errors in determination of radial velocities were known, an attempt was made to evaluate the influence of

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ACCESSION NR: AT4038538

these errors on the distribution curves. A table accompanying the text gives the determined dispersions of velocity for the stars of different spectral and luminosity classes in the studied regions. It appears that the dispersion of velocities within the limits of one luminosity class increases with transition from early to later spectral classes. Orig. art. has: 11 formulas, 3 tables and 3 figures.

ASSOCIATION: Gosudarstvennyy astronomicheskiy institut, Moscow (State Astronomical Institute)

SUBMITTED: 00May61 DATE ACQ: 18Jun64 ENCL: 00

SUB CODE: AA NO REF SOV: 003 OTHER: 002

Card 2/2

PAVLOVSKAYA, Ye.D.

Determination of the solar velocity in relation to stars of different spectral types and luminosity classes. Astron. zhur. 40 no.6:1112-1122 N-D '63. (MIRA 16:12)

1. Gosudarstvennyy astronomicheskiy institut im. P.K.Shternberga.

GLIKMAN, L.S.; ROSHCHUPKIN, V.I.; PAVLOVSKAYA, Ye.I.

Powdered metal filters for retaining sand in oil recovery.
Neft.khoz. 37 no.12:30-36 D '59. (MIRA 13:5)
(Filters and filtration) (Sand)

L 50330-65 EWP(e)/EWT(m)/EWP(t)/EWP(k)/EWP(z)/EWP(b) Pf-4/Pad IJP(c)
ACCESSION NR: AP5011309 JD/EW UR/0122/65/000/004/0052/0054

AUTHOR: Pavlovskaya, Ye. I. (Engineer) 33 B

TITLE: Filters made of sintered metals for fine filtering of liquids

SOURCE: Vestnik mashinostroyeniya, no. 4, 1965, 52-54

TOPIC TAGS: filtration, powder metallurgy, sintered filter, steel, bronze, titanium, nickel, silver

ABSTRACT: Filter elements are made of spherical grain powders of low carbon and stainless steel, bronze, titanium, nickel, silver, and other metals, depending on the liquid to be filtered. They are able to withstand sudden changes of temperature or pressure. The author determined the average opening and the capacity of filter elements made from metal powder of different grain sizes. For 0.2 mm diameter grain powder, the average opening was 50 μ, and the capacity was 16 l/min for a cylindrical element of 40-mm outside diameter, 34-mm inside diameter, and 50-mm length. Using 0.8-mm grain powder, the average opening was 150 μ, and the capacity of an element of the same dimensions was 36 l/min. More details are given on the performance of filters made of various metal powders by different procedures. Sintered stainless steel filters were tested for the

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D 50350-65

ACCESSION NR: AP5011309

filtering of air, and low carbon steel filters for fuel oil. The performance can be improved by using two layers. The filtering elements are of either cylindrical or disk shape and can be welded together. The welding procedure is described. By using a new method of pressing, it is possible to increase the length of a single element up to 1 meter. Three ways of cleaning the filters are described, and their maintenance is explained. Orig. art. has: 2 graphs and 3 tables.

ASSOCIATION: none

SUBMITTED: 00 ENCL: 00 SUB CODE: IE

NO REF SOV: 000 OTHER: 000

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L 57726-65 EWP(e)/EWT(m)/EWP(k)/EWP(t)/EWP(z)/EWP(b) Pf-4 JD
ACCESSION NR: AR5015171 UR/0137/65/000/005/C039/C039

SOURCE: Ref. zh. Metallurgiya, Abs. 5C230

AUTHOR: Pavlovskaya, Ye. I.; Goryachova, Z. V.; Rakain, Ya. N.

TITLE: New methods of forming filter elements

CITED SOURCE: Tr. 7 Vses. nauchno-tekhn. konferentsii po poroshk. metallurgii, Yerevan, 1964, 172-177

TOPIC TAGS: filter material, powder metal, powder metal pressing, vibration

TRANSLATION: An investigation has been made of the possibility of using various pressing methods for manufacturing filter elements out of powders with a spherical particle shape. Use of such powders assures a high filter element capacity while preserving a high degree of cleaning; however, these powders have low pressability. Static pressing or static pressing in conjunction with vibration charging of the burden into the press form assures obtaining a uniform density at a briquet height up to 100-120 mm. A specially developed hydrostatic pressing apparatus with provision for vibration feeding at a vibration frequency of 3000 vibrations per minute was used to make filter elements in the form of a

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L 57726-65

ACCESSION NR: AR5015171

tube with a length up to 1 m. This type of filter element was obtained by extrusion pressing. An 0.5% solution of starch paste was used as a filler. The mixture was previously pressed down, and the pressing was done at a speed of 5-10 m/sec. Filter elements made by different methods differ in fineness of filtration and in capacity. V. Kvin.

SUB CODE: MM ENCL: 00

Card 2/2

PAVLOVSKAYA, Ye.I.; GORYACHEVA, Z.V.

Methods of joining ceramic metal filtering materials. Poroshk. met. 5 no.4:88-93 '65. (MIRA 18:5)

1. Gosudarstvennyy nauchno-issledovatel'skiy i proyektnyy institut neftyanogo mashinostroyeniya, Moskva.

PAVLOVSKAYA, Ye.I., inzh.

Ceramic-metal filters for fine purification of liquids. Vest. mashinostr. 45 no.4:52-54 Ap '65.

(MIRA 18:5)

ACCESSION NR: AP4029210 S/0226/64/000/002/0089/0098

AUTHOR: Lev, M. B. (Moscow); Pavlovskaya, Ye. I. (Moscow); Shibryayev, B. F. (Moscow); Barkan, B. L. (Moscow)

TITLE: Obtaining spherical iron powder by the method of atomizing fused metal

SOURCE: Poroshkovaya metallurgiya, no. 2, 1964, 89-98

TOPIC TAGS: spherical powder, spherical iron powder, Armco iron, 10 steel, 30 steel, 45 steel

ABSTRACT: The authors describe the effect of various factors (design of the burner, carbon content in the atomized metal, preliminary annealing, air pressure, distance from burner to water level in the powder gathering chambers, etc.) on the yield of Armco iron and Nos. 10, 30 and 45 steels are given in tables, which include the granulometric composition and pressability. The design and description of a device for atomizing fused metal by water is shown. The first results of its operation are given. The authors find it difficult to say which variant of atomizing will be preferable. It is entirely possible that both methods will be used depending upon specific conditions. Orig. art. has: 8 figures and 7 tables.

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ACCESSION NR: AP4029210

ASSOCIATION: none

SUBMITTED: 14Feb63 DATE ACQ: 28Apr64 ENCL: 00

SUB CODE: ML NO REF SOV: 005 OTHER: 000

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L 10587-63 EPR/EPF(c)/EWT(l)/EPF(n)-2/EWG(k)/EWP(q)/EWT(m)/T-2/BDS
AEDC/AFFTC/ASD/ESD-3/SSD Pr-4/Pu-4/Pz-4/Ps-4 WW/WH/JG

ACCESSION NR: AP3000947 S/0064/63/000/003/0072/0075

AUTHOR: Shibryayev, B. F.; Pavlovskaya, Ye. I. 85

TITLE: Metal-ceramic filters

SOURCE: Khimicheskaya promyshlennost', no. 3, 1963, 72-75

TOPIC TAGS: metal-ceramic filters, ceramet, Ni, Ag, brass, bronze, stainless steel, Monel metal, Zr, V, Nb, Ti, Ta

ABSTRACT: Extensive description is given for each step in the production of ceramet filters. These include the methods for preparing the metal powders with smooth spherical surfaces, e.g. atomizing the melt in air or water; pressing the desired particle size fraction and sintering. Data given shows relationship between filter permeability and pore size, pressure drop and filter thickness. Ceramet filters are stable, highly porous, have good permeability and give remarkable sharpness in filtration. They can be made to a prescribed pore size, corrosion resistance, thermal stability and heat conductivity by selecting a suitable metallic material such as Ni, Ag, brass, bronze, stainless steel, Monel metal, the carbides, nitrides, borides of Ar, V, Nb, Ti, Ta. Orig. art. has: 3 tables and 6 figures.

Card 1/1

PAVLOVSKAYA, Ye.I., inzh.; RAKOVSKIY, V.S., doktor tekhn. nauk

Powdered-metal filters. Vest. mashinostr. 43 no.10:37-38 O '63.
(MIRA 16:11)

SHIBNYAYEV, B. F.; PAVLOVSKAYA, Ye. I.

Metal-ceramic filters. Khim. prom. no.3:232-235 Mr '63.
(MIRA 16:4)

(Filters and filtration)
(Ceramic materials)

L 44731-65 EPF(c)/EPF(n)-2/EPR/EPA(s)-2/EPA(w)-2/EWP(j)/EWT(m)/EWP(j)/
EWP(b)/T/EWP(v)/EWP(e) Pc-4/Pr-4/Ps-4/Pt-7/Pu-4/Pab-10 RM/WH/WW/JG
ACCESSION NR: AP5010409 UR/0226/65/000/004/0088/0093

57
58
B

AUTHOR: Pavlovskaya, Ye. I.; Goryacheva, Z. V.

TITLE: Methods of joining cermet filter elements

SOURCE: Poroshkovaya metallurgiya, no. 4, 1965, 88-93

TOPIC TAGS: cermet filter, static compression molding, hydrostatic compression molding, extrusion die, detachable joint, permanent joint, filtration fineness

ABSTRACT: Filter elements (plates, disks, cylinders, hollow cones, tubes, etc.) fabricated from powders of stainless and low-carbon steel, nickel, bronze, and other metals are being increasingly used. Their manufacturing process, however, being based on static compression molding, precludes the fabrication of tubes and cylinder of a height more than twice the diameter and disks larger than 200 mm. Therefore, the production of long cermet tubes and plates with diameter of more than 200 mm requires joining the individual elements. Two principal methods of joining are employed: detachable joints -- fastening by means of bolts, dowels, etc.; and permanent joints -- fastening by means of riveting, soldering, welding, adhesives, etc. The selection of the joining method is discussed as a function of operating

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L 44731-65
ACCESSION NR: AP5010409

conditions of the filter, and this article concentrates on the methods of permanent joining of filter elements, with special reference to joining by means of adhesives and by soldering and welding and rolling. The advantages and disadvantages of each of these methods were evaluated by comparing the performance of disks joined by these methods. The disks joined by rolling were found to perform best as regards the fineness and capacity of filtration, but rolling is suitable only for disk-shaped elements. All the methods considered may be recommended for joining of filter elements fabricated from powders with spherically shaped particles. Currently the technology of production of filter elements by the extrusion-die and hydrostatic molding techniques is being developed. Orig. art. has: 5 figures, 1 table.

ASSOCIATION: Gosudarstvennyy nauchno-issledovatel'skiy i proyektnyy institut neftyanogo mashinostroyeniya, Moscow (State Scientific Research and Project-Design Institute of Petroleum Machine Building)

SUBMITTED: 27Jan64 ENCL: 00 SUB CODE: MM

NO REF SOV: 003 OTHER: 000

Card 2/2

L 01066-66 EPA(s)-2/EWT(m)/EWP(e)/EPF(c)/EWP(i)/EPF(n)-2/EWG(m)/EPA(w)-2/EWP(j)/T/EWP(b) WW/JG/DM/RM/WH

ACCESSION NR: AP5014538 UR/0089/65/018/005/0478/0483

621.039.55 45 B

AUTHOR: Tokarev, Yu. I.; Bogdanov, F. F.; Pavlovskaya, Ye. I.; Chernopyatova, A.P.

TITLE: Development of technology for the manufacture of filters to purify organic coolants and an investigation of their hydraulic resistance

SOURCE: Atomnaya energiya, v. 18, no. 5, 1965, 478-483

TOPIC TAGS: organic cooled reactor, organic coolant, coolant contamination, coolant filter, metal ceramic filter

ABSTRACT: The authors report the results of an experimental investigation of hydraulic resistance of metal-ceramic disc filters for organic coolants, tested under working conditions. This investigation is motivated by the fact that in organic-cooled reactors (such as "Arbus" in the SSR or OMRE in the USA) the primary loop coolant always contains some inorganic contaminats, in spite of a thorough cleaning. The technology of preparing the filters is described. Stacks of filters made of powders of different sizes were tested for filtering ability and for hydraulic resistance by means of special experiments, using monoisopropyl diphenyl at 300C as the test coolant. The set-up is briefly described. Plots of the pressure differential against the flow rate and of the local resistance to flow against the Rey-

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L 01066-66

ACCESSION NR: AP5014538

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nolds number are presented, and an empirical formula for the latter is derived. The test results show that the filters can be regenerated by means of a current of coolant in the opposite direction, with the contaminants discarded into an overflow tank. Orig. art. has: 5 figures, 1 formula, and 2 tables.

ASSOCIATION: none

SUBMITTED: 28Apr64 ENCL: 00 SUB CODE: NP

NR REF SOV: 005 OTHER: 001

Card 2/2 DP

L 12677-65 EWT(m)/EPA(s)-2/EWP(m)/EWP(n)-2/EWA(d)/EPR/EWA(d)/EPR/T/
EPA(w)-2/EWP(t)/EWP(k)/EPA(bb)-2/EWP(b) Pab-10/Pi-4/Pr-4/Ps-4/Pu-10/Pi-4
IJP(c) MJW/JD/WW/RM/JG/WH S/0226/65/000/001/0074/0078
ACCESSION NR: AP5004442

AUTHOR: Lev, M.B.; Pavlovskaya, Ye. I.

TITLE: Use of porous cermet partitions for localizing a flame

SOURCE: Poroshkovaya metallurgiya, no. 1, 1965, 74-78

TOPIC TAGS: powder metallurgy, porous cermet, sintered iron, sintered bronze, sintered stainless steel, flame partition/steel 1Kh18N9T

ABSTRACT: The paper presents the results of the use of porous cermet materials made of iron, bronze, and 1Kh18N9T stainless steel for confining the mixtures of hot gases widely employed in the petrochemical industry. Since the effectiveness of a flame partition is characterized by the maximum initial pressure of the gas mixture at which

gases. The [illegible] the pore diameter: the smaller the latter, the higher the LSP. The thickness of the

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L 32677-65
ACCESSION NR: AP5004442

cermet partitions did not affect the LSP within the investigated limits (5 to 20 mm). Porous bronze was found to be much more effective for flame-confining purposes than porous iron or stainless steel. Orig. art. has: 1 figure and 6 tables.

ASSOCIATION: Gosudarstvennyy nauchno-issledovatel'skiy i proyektnyy institut neftyanogo mashinostroyeniya (State scientific research and planning institute for petroleum [illegible])